

SECTION III HORTICULTURALISTS (WOODLAND)

Chapter 8

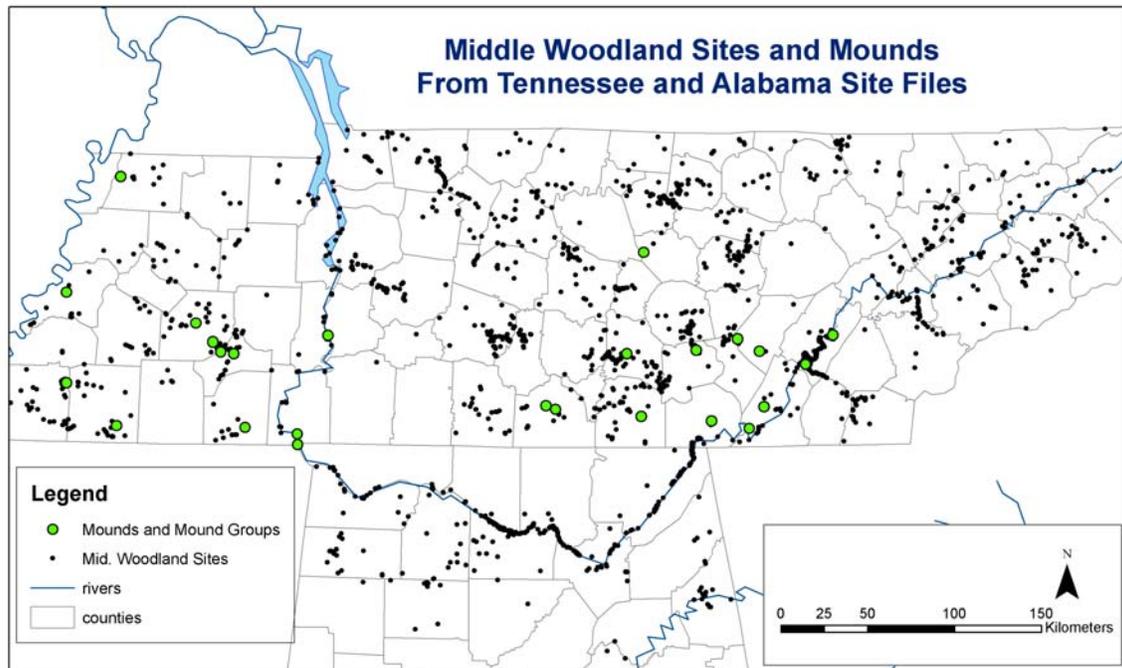
Middle Woodland : 200 B.C - 400 A.D (2200BP – 1600BP)

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Settlement Pattern

Middle Woodland period archaeology (ca. 200 B.C. to A.D. 400) in the Eastern Woodlands is marked by an increase in artifacts and earthen constructions associated with ceremonialism and long distance trade, and an increase in the amount of native cultigens and “pseudo-cultigens” recovered from archaeological assemblages (Anderson and Mainfort 2002, Griffin 1967, and Smith 1992). The use of flood plain horticulture and the domestication of plants like sunflower and sumpweed are well documented (for an overview see Smith 1987, Steponaitis 1986, and Watson 1990). Large mound centers and varied forms of iconography that occur throughout the Eastern Woodlands are generally considered part of an extensive interregional network called the Hopewell Interaction Sphere—a network whose core is thought to be located in the Ohio River Valley (Caldwell 1964, Struever 1968). The Southeastern participation in the exchange of exotic goods has been associated with regional hierarchies that, through reciprocity on the local level, facilitated the movement of vast quantities of sought after materials over great distances (Goad 1979). Items that were valuable either socially or spiritually were passed all over from Florida to west of the Mississippi River. Sea shells, sharks teeth,

mica, copper, obsidian and other siliceous stones, and even bear and wolf teeth were items that found themselves in exchange over very long distances. A large percentage of



these items were funneled into the Ohio River Valley likely into the possession of powerful individuals and families. The Hopewell Interaction Sphere, or Hopewell phenomenon, has in recent years come under scrutiny as a meaningful category (Anderson and Mainfort 2002, Carr 2003, and Seaman 1996).

Comparing the settlement patterns, site structure, and ceremonialism (including burial practices) of the Middle Woodland components within the Upper and Middle Duck River Valley to other Middle Woodland components throughout the Eastern Woodlands suggests that further “deconstruction” of the Hopewell Interaction Sphere is in order in Tennessee archaeology.

The idea that mounds and earthworks can serve many functions and play differing roles from defining and displaying corporate identity to more loosely tying together autonomous households into a sustainable interaction network is a point that has often been overlooked in Hopewellian studies (Ruby et. al. 2003). We suggest another distinction that can be drawn between the elaborate burial practices often accompanied by quantities of exotic materials during the Middle Woodland period, and the communal practice of constructing earthworks with little or no mortuary associations or distinction in individual status.

A model proposed by Knight (1986) concerning the organization of iconography, or *sacra*, among Middle Mississippian sites may shed light on the differences noted among Middle Woodland sites and the Hopewell phenomenon. Knight proposes that the Middle Mississippian iconography and mound construction that had previously been included under the name “Southern Cult” was really several separate—though related—groups of *sacra* expressing differing social themes. Although his article is about a more “complex” system of government and the purpose is to identify co-related cults, I suggest that employing his concept of “iconic families” (1986: 676) can help to tease out the differences noted within Middle Woodland assemblages and ceremonialism. Most interesting is the distinction Knight makes between the iconic families of “public works” and those of the political sphere. The “public works” are the platform mounds, which Knight relates to an “icon representative of the earth,” and a communal rite of purification and intensification (1986: 678). I would suggest that the seeds of these iconic families are manifest in the Middle Woodland period. If instead of including both mound construction, particularly of the enclosures, together with the conspicuous

consumption iconography mostly associated with the burial of particular individuals, then it comes as no surprise that these elements can be found together or separately throughout the prehistoric Eastern Woodlands, and this is the situation we find throughout Tennessee.

Differing distributions of cultigens and domesticated plants in archaeological assemblages are partially the result of local abundance of species variety, and the length of the annual growing season leading to different adaptations related to pre-maize agriculture (Gremillion 2002). It has been suggested that co-evolutionary relationships between humans and plants are mediated by population growth or dispersal (O'Brien 1987). Applying these tenets to the separation of elaborate Middle Woodland burials and the construction of non-mortuary earthworks could provide a spring board to understanding the variability present in those different sites.

The Duck River's headwaters roll from the most western edge of the Cumberland Plateau Escarpment into the eastern highland rim adjoining just southwest of Old Stone Fort, an earthworks enclosure complex that dates to the Middle Woodland period (Faulkner 1968). From there the river cuts through limestone and then shale into the Nashville Basin, emptying eventually into Kentucky Lake. The construction of the Normandy Dam on the Upper Duck was preceded by extensive salvage archaeology (Faulkner 1973). Charles Faulkner synthesizes that salvage work, with other surveys in the Elk River into a culture history for the Middle Tennessee region (2002). With the multiple volumes produced after the salvage project on the Upper Duck, and the synthesis presented in 2002, a researcher can reconstruct a vivid picture of Middle Woodland culture and settlement. The surveys of the proposed Normandy reservoir and of the

upper Elk drainage are the norm by which all woodland studies in Tennessee are compared. These are still the only reservoir surveys that focused primarily on Woodland sites, and especially Middle Woodland sites. Most striking looking over the assemblage data, was the lack of Hopewell related exotic materials—or much at all in the way of exotic materials throughout the Upper and Middle Duck River Valley. Most striking perhaps, because the previously mentioned earthworks at the headwaters appear to be very similar to classic Ohio Hopewell hilltop mound enclosures like Fort Ancient and Fort Hill in the Little Miami River Valley, and Miami Fort (Connolly 1996, Mainfort 1998, and Faulkner 1968). Mark Seemen (1996: 307) notes a similar disjunction between the iconographic portable Hopewell items and site structure at sites only 170km from the Hopewell “core”. The iconographic trappings associated with Hopewell ceremonialism and burial practices are not present on many sites with mound construction similar to classic Hopewell mound groups. The specialized artifacts associated with Hopewell, especially Hopewell burial, have been suggested to relate to the appearance of hierarchical power relations in the form of something similar to a Big Man system, as the precedent for the hierarchical system hypothesized for later Middle Mississippian groups (Anderson and Mainfort 2002, Smith 1986). As noted by Anderson and Mainfort (2002: 10-11) however, most Middle Woodland sites away from the Ohio River Valley core have relatively uncomplicated burial ceremonialism. In the Upper Duck River Valley very few elaborate burials have been uncovered, and the extent of burial elaboration at sites like Banks V and Jernigan are in the form of shaft and chamber graves with associated pottery (Faulkner and McCollough 1976, 1978). The interred individuals were a female 16-21 year of age and an infant that is relegated to the later Mason phase (1976).

Evidence of art or ceremonialism in these domestic sites comes in the form of faceted hematite from the nearby Cumberland Plateau Escarpment (Faulkner and McCullough 1973). In general we do not see the differentiation that would be consistent with a stratified society, and most likely the individuals with special burial treatment in the Upper Duck were not hereditary leaders. Evidence from the Upper Duck and Elk River valleys present site plans with relatively similar structures with similar associated features with no specialized activity areas identified (Faulkner and McCullough 1973-1978). This evidence leads to the conclusion that there was probably a great deal of variation in social structure of the Middle Woodland period throughout the Eastern Woodlands. Many similarities *can* be found in subsistence practices and many similarities can be found among the mound building practices throughout the Eastern Woodlands during the Middle Woodland period. Upon studying the settlement and site structure of the Middle Woodland Period, there appears to be a clear distinction between the elaborate Hopewellian burial practices, and the construction of earthwork complexes. One has to do with the veneration of certain individuals or particular roles in society, while the other category involves the communal expression associated most likely with rites of intensification and renewal. The priorities of the people who built monumental construction are embodied within, and on, the landscape. It is fair to conclude then that the differences between earthworks and surrounding settlements can be attributed at least partially to the circumstances and social climate during their construction.

Throughout the Upper and Middle Duck, and for the most part the Elk River Valley, we find very similar assemblages and site structure. At the McFarland site, the type site for the so named Middle Woodland cultural phase identified by Faulkner (1973),

at least five tension poled structures were excavated (Kline et. al. 1982). Each structure is similar in shape and size; each identified structure consisted of oval to circular post hole patterns with diameter ranging around six to seven meters in diameter, central posts, at least one deep, cylindrical “storage” pit, a shallow basin shaped “processing” area, and fire cracked limestone filled “earth ovens.” The variation in site structure comes from the fact that structures two through four are closely adjacent and probably contemporary. Despite this variation, the similarity in artifactual content and distribution of associated features, led the investigators to describe the households as “autonomous units” (1982: 46). No specialized activity areas were identified in any of the structures. Although a cob of *Zea mays* was found in Structure two, it was found in a shallow basin feature (Feature 88) and does not seem to come from ceremonial context. A similar feature distribution is described at Aenon Creek along the Middle Duck River Valley (Bentz et. al. 1989). Although only one structure was identified, the Middle Woodland component feature distribution fits closely with the “autonomous unit” households described at McFarland. Other sites throughout the Duck and Elk River Valleys through Middle Tennessee display similar site structure (McCullough and Faulkner 1976, 1978 and Bentz et.al. 1989). Sites described in the Lower Illinois and Lower Wabash-Ohio River valleys (Ruby et. al. 2003 and Stafford and Sant 1985) are also reported to have similar site structure. Although these northern settlements contain the earthen ovens, pit features and basins, they are generally smaller single to three household sites. There is little evidence of conspicuous and expensive type of grave offerings in the Middle Tennessee area during the Middle Woodland. Although no burials were found at McFarland, secondarily deposited cremated remains are found throughout the two drainages. This practice would

seem more consistent with the practice of commingling prepared remains as a way to reify social contracts than stratified society. At the Ewel III site in the Upper Duck a small cemetery was uncovered (DuVall 1977). No distinction in status was observed there either. The exception is the Yearwood site (Butler 1982). This site produced burials with accompanying grave offerings associated with the Copena and Hopewell trade network. Most conspicuous are the few blades made from Flint Ridge chert found in the Ohio River Valley. This site stands as an anomaly, and is described by Butler as a short-term, intensively occupied site where site structure and assemblage data contrasts sharply with other sites in the drainage. The Elk River drains into the Tennessee River in present day Alabama where Copena burial mounds and sites abound (Walthal 1980). I will tentatively suggest that the Yearwood site, if for a brief time, may have worked as a regional accumulation for items working their way through the trade networks that existed between southern groups and the northern Hopewell (Goad 1979). This is an agent driven interpretation of the Yearwood assemblage, but is not a difficult proposition to entertain considering the brief occupation, singular artifact assemblage, and its anomalous appearance within Middle Tennessee. Part of the work on the McFarland project in Manchester Tennessee was designed to find a transitional continuity of McFarland to Owl Hollow Middle Woodland ceramic cultures (Kline *et. al.* 1982). No such cultural continuity was found leading the researches to suggest the later as an intrusive culture. This intrusive culture or closely circumscribed territories within the middle Tennessee area may account for some of the disparities in the archaeological record.

Recent summaries of Hopewell archaeology have distinguished similar differences between the Lower Wabash-Ohio River Valley and Lower Illinois have less strict and elaborate burials when compared to the Scioto valley region (Ruby et. al. 2003). These researchers used means in temperature and rainfall to determine the relative abundance and variety of species available to local human populations. The conclusion drawn from this research was that in the Scioto Valley abundant areas were more circumscribed, linear and smaller than the other two drainages. Therefore territorialism is seen as driving mound construction and thus elaborate burials in highly visible areas legitimated lineages' claims to certain resource abundant areas. Where the resources were more varied and abundant, like in the Lower Illinois, less elaborate burial practices and vacant ceremonial centers are more common. This latter situation seems to be in line with the archaeological evidence from Middle Tennessee. The Upper Duck in particular can be considered a very diversified and abundant resource area. First, the river cuts through several physiographic regions providing Riverine resources and floodplain plant resources on the bottoms and Oak and Hickory mast resources, and the game that goes with that on the slopes and uplands. Secondly, it is likely that during the Middle Woodland this area of Tennessee was the boundary between the Mixed Mesophitic and Western Forest regions (Braun 1950). Many diverse plant remains have been recovered from Middle Woodland contexts throughout the Upper Duck. At the McFarland site, hickory nutshell is the most dominant of all plant remains and still a substantial amount of *Chenopodium*, *Polygonum* and *Phalaris*, as well as Sunflower and *Curcubita pepo*. This demonstrates a wide variety in diet related to an abundant micro-environment. The ceramic assemblages in the Upper and Middle Duck and Elk River are dominated mainly

by Wright check-stamped sherds. This pottery type is found as well on Copena sites, and in fact Faulkner and McCullough remark that “Woodland affiliations continue to be dominated by southerly influence,” and the “Hopewell influences are so sparse as to be virtually negligible” (1973: 223). The exception of course appears to be the Yearwood site which has more frequently plain ceramics and sand tempered sherds that are possibly related to the sites of Tunacunnhee (Jeffries 1976) in Georgia and Walling in Alabama (Walthal 1973 from Butler 1982), both of which are probably “Copena.”

As far as the similarities mentioned earlier in the paper between the Old Stone Fort on the Upper Duck, and Ohio sites like Fort Ancient. First the lack of habitation evidence within the enclosure, or immediately around it fits well into Prufer’s model of the vacant ceremonial center—dispersed agricultural hamlet model (Prufer et al 1977). Secondly it shares features such as parallel embankments, summer solstice alignments, limestone pavements and its placement on a prominent bluff (Connolly 1996, Faulkner 1968, and Pearsall 1991). Bluff line mound construction is not limited to, nor likely to originate in the Ohio Hopewell core area. In fact, the oldest mound construction occurs in the Southeast. Not surprisingly, many of these Southeastern earthworks have many commonalities. Pinson mounds in western Tennessee, the Marksville site in Louisiana, the Florence earthworks in Alabama all have a similar shape and placement on the landscape (Boudreaux and Johnson 1989, Jones and Kuttruff 1996, and Mainfort 1996). All three sites are similar also to a much older site in Louisiana, Poverty Point (Gibson 1996); with the exception that Poverty Point is made of concentric semicircles, while the other sites listed have only one arc. So we see here that mound enclosures do not find their beginnings in Ohio Hopewell.

The elaborate burial practices seen most intensively in the “core” of the Hopewell area may be explained by the quicker adaptation of pre-maize agriculture, particularly in the Scioto Valley. The earlier adoption of agricultural practices would have led to more sedentary populations that have greater stake in holding particularly rich areas for cultivation, provide the opportunity for individual lineages or individuals to gain more control over production, and in effect, elevate their status above others. Whether this is the case for Copena as well is unclear at this time, but the fertile soils and rich riverine environment of the Central Tennessee River Valley may have provided greater opportunity for sedentary settlement and subsequent opportunity for individuals to gain prestige and corporate groups to invest in maintaining access to particular resource areas. Where in the Upper Duck we see intensively occupied short duration settlements, perhaps in the Copena area there are more sites with long term occupation.

Although the Middle Tennessee sites have produced a fair amount of cultigens, assemblage data from sites like McFarland produced suites of lithic tools that are dominated by bifacial cutting implements. This may indicate a greater reliance on hunting and gathering by the people of the Upper and Middle Duck and Elk Rivers (Kline et. al. 1982). Through the above perspective, it is not surprising to find, at what is assuredly the ceremonial center for the people of the Upper Duck (if not all of South Central Tennessee,) that we do not find evidence of elaborate burials or burial offerings. More likely the Old Stone Fort was a center where through constructing the mound, and perhaps interring cremated remains of differing local groups, social contracts and beliefs were intensified and purification and renewal took place. The enclosure was more likely served as an aggregation center for local and maybe more distant nucleated groups,

binding them together. Selection may have favored the aggregation of nucleated groups verses dispersal in managing the risk of localized short falls in economies relying more and more on cultigens and domesticates (Dancy 1996). Through this lens it is not difficult to imagine this enclosure that covers over fifty acres (Faulkner 1968) never served as a locus for the exchange of exotic “Hopewell” commodities. In fact it makes it easier to imagine the trade of social alliances, marriage partners and “handshaking” is what took place during Middle Woodland gatherings there. Certainly within the Duck and Elk River drainages we find influence from Copena, Marksville and Hopewell, but this is also not surprising considering the central positioning of these waterways in between these major loci of trade. This area is a potential boundary between these intensively trading peoples, and this makes for fertile ground for future research in trying to deconstruct what has been historically called Hopewell and Southern Hopewell. This model applies more to evolutionary ecology than to explanations like opting-out or other agency driven models. Through this deconstruction of the Hopewell Interaction Sphere that we can begin to understand the variation that presents itself not only in the Southeast, but throughout the Eastern Woodlands.

Potentially this framework could be better tested with more evidence of Copena site structure, reliable estimates of population sizes throughout the areas of study, and comparative study of Middle Woodland earthworks, and their persistence and decline into the Late Woodland. Also more evidence for the domestication of plants, and the adoption of maize as the major component of subsistence may shed light on this problem.

In conclusion, I suggest that elaborate mortuary practices be studied separately from non-mortuary centers like Old Stone Fort; that there existed in the Middle

Woodland throughout the Eastern Woodlands separate spheres of ceremonial practice. On the one hand there is the complex mortuary ceremonial complex associated with the veneration of certain individuals, or individual roles within social groups, where corporate groups are making and reifying territorial claims to particular resource areas. On the other hand there is the ceremonial complex focused on social integration, intensification and renewal. The latter practice most likely being tied to abundant environments that favor nucleated settlements (Dancy 1996) that for the purposes of reducing risk associated with more sedentary living, and finding suitable ways to increase social membership, came together to build mounds that were not about corporate display or aggrandizing, but instead are about sharing common beliefs and reifying social bonds.

Pinson Mounds in Western Tennessee on the Forked Deer River is the most striking archaeological site in the state of Tennessee. Saul's Mound is the second tallest mound in the United States now, and was the tallest at the time of its construction and for over five hundred years after until the rise of the great city near present day St. Louis, Cahokia. If the Upper Duck Valley is the norm of Middle Woodland in Tennessee, then Pinson is somewhere way out on the periphery. The site seems to share more in common with the elaborate Hopewell sites found in the Scioto Valley or the more nearby Copena, Pinson is in a very different geographic province than the Upper Duck River Valley; it is located within the Mississippi River Valley drainage. Pinson has seen its share of investigations, and yet only a small portion of the site has been excavated.

The Pinson site is considered a Middle Woodland ceremonial center, but the site covering over 300 acres has deposits that range from burial mounds to domestic deposits (Mainfort 1986). Pinson stood as an anomaly in the Middle Woodland of Tennessee

much like the Poverty Point site in the Archaic. Features that are generally considered indicative of the succeeding Mississippian period such as flat topped mounds and elaborate burials that suggest high status individuals occur on this enigmatic site. Of the many mounds that appear on the site, the Twin Mounds contain the most telling evidence of the purpose of the site. In this mound several individuals were interred with exotic goods reminiscent of the earlier mentioned Yearwood site in middle Tennessee. Copper, mica, blades, shell necklaces, ceramic pieces from as far as Louisiana, bear vertebrae, as well as evidence of reed matting and copper headdresses were associated with the burial contexts. Gorgets or rattles fashioned from human bone were also found in this burial mound. One of the most overlooked findings from this context is the occurrence of several individuals interred probably at the same time, eight of the individuals being females between the ages of 20 – 30. Mainfort comments that this burial treatment may indeed be evidence of retainer burials, and therefore puts Pinson into a category that is generally reserved for what many archaeologists consider chiefdom level organization. If Pinson were the location of a chiefdom or proto-chiefdom, then this site is surely an anomaly in Tennessee Woodland prehistory. No extensive survey programs have been completed in the vicinity of the Pinson mound group, and it is therefore difficult to assess the likelihood that a chiefdom level of organization was present in the area during the time of use of the mound group. The ceramic assemblage finds pottery from the south and the north, and it is likely that Pinson drew people from far away to participate in ceremonies or mound construction at the site.

As mentioned earlier in this chapter, another feature at Pinson is in the eastern part of the site where an earthen embankment creates a circular enclosure next to a steep

bluff line, similar to the Marksville site and also reminiscent of Hopewell enclosures. Mark Norton suggests also that this enclosure may have served as a water catchment (personal communication) of which the only analog in the eastern United States is Hopewell.

In similar contrast to the Middle Tennessee assemblage is the Ice House Bottom site located within the Ridge and Valley geographic region of Tennessee. At this site there are not extensive mound building recognized in the area, but a direct connection to Ohio Hopewell is found in the lithic assemblage. Prismatic blade fragments made of Flint Ridge Chalcedony found in stratified deposits in strong Middle Woodland association (Criddlebaugh 1981). These blades are a product of the Ohio Hopewell where this distinctive stone raw material is found. Several types of ceramic sherds with Hopewell motifs were recovered from this site also. In addition to the Hopewell associated artifacts are kernels of *Zea mays* that together with the McFarland site are possibly the earliest examples of corn in North America (Criddlebaugh 1981, Gary Crites personal communication). Aside from these exotic finds Ice House bottom fits well into the model of a Middle Woodland site as outlined in the Duck River surveys. Ice House bottom is situated near the mica resources of the Appalachian Mountains, and this is the most likely reason for contact with Ohio Hopewell. We are not aware of any studies have proved mica sourcing possible, and no sites to our knowledge have been identified as Middle Woodland mica processing sites. The early appearance of *Zea mays* in archaeological contexts in Tennessee deserves more research attention. Whether corn came to North America through down the line trade or direct trade, or on the wind or

ocean, surely its early presence in middle and east Tennessee has something to tell us about the plants history and eventual dominance in the diet of Native American Indians.

Technology and Material Culture

Copena is a triangular Middle Woodland point type associated with the Copena complex found throughout Tennessee (Faulkner 1969). A significant number of these were found at the McFarland site and designated as a McFarland (Faulkner and McCollough 1973, Justice 1987). Snyders is an early Middle Woodland point type found in Western Tennessee (Justice's 1987). Bakers Creek point type is found during the "middle and terminal Middle Woodland" (Justice 1987: 211). Sites where this point type has been found include Banks III, McFarland, Peter's Cave, and Owl Hollow (Justice 1987). This type is noted by Justice as being labeled "Stemmed Copena" by Cambron and Hulse (1975). The Lowe Flared Base points are identified by Justice as being terminal Middle Woodland and closely related to Bakers Creek. They are generally associated with Hopewellian ceremonialism (Justice 1987). Other types found in Tennessee include the Steuben Expanded Stem in the Normandy Reservoir (Faulkner and McCollough 1973) and Swan Lake at Pinson (Mainfort and Walling 1992) and Dunbar Cave.

George Odell (1994) identified a microblade industry during the Middle Woodland in the Eastern Woodlands. This was significant, according to Odell, because blade technology was rare during any other time period of prehistory in this region. Through use-wear analyses on microblades from several sites in Illinois, he found that

these blades had several uses. The ones found in domestic dwellings were used for a variety of tasks and were likely part of composite tools. Microblades were also present in ritual and mortuary contexts, leading Odell to conclude of their possible role in Hopewell ceremonialism. Microblades have been found at Pinson Mounds, a Middle Woodland site in Western Tennessee. Mainfort and Walling (1992) identified microblades made from local Fort Payne chert as well as exotic Flint Ridge Chert (source is Ohio?). Many of these microblades were found in ritual context supporting Odell's theory of their use in Middle Woodland ceremonialism.

Subsistence

Middle Woodland Subsistence

Yarnell and Black (1985)

Yarnell and Black provide an overview of plant remains from archaeological sites in the southeastern United States. They examine 119 Archaic and Woodland occupational components from 60 sites. Of the components from the state of Tennessee, nine were Early Woodland, thirteen were Middle Woodland, and nine were Late Woodland. The Tennessee sites were primarily from the Normandy and Tellico Reservoir Projects. Tennessee sites comprised a substantial proportion of the sample, and were considered representative of the entire region in most respects.

Seed-to-nutshell ratios are presented in terms of number of (non-cultivated) seeds per 100g of nutshell. The average over all the samples from the region was 89. An increasing trend was noted from the Early Archaic through the Middle Woodland. There were 45 seeds at the Terminal Archaic, 85 in the Early Woodland, and 171 in the middle woodland. This trend reverses in the Late Woodland, largely because of the paucity of

Late Woodland sites from Tennessee. These data demonstrate an increasing reliance on seed crops throughout this period.

Proportions of different types of nuts represented in the sample are also presented. Hickory shell is by far the most ubiquitous, ranging from 69% to 94% of the sample. Amounts of hickory shell from the region remain relatively constant throughout the period. Walnut ranges from 0.2% to 17%. Acorn is comparable to walnut, but evidence suggests that acorn shell may consistently be underrepresented in the archaeological record due to fragmentation and poor preservation. Compensation factors have been devised to more accurately compare acorn remains to hickory, usually a multiplication factor ranging from 5 to 200. A conservative factor of 50 was used by Yarnell and Black, and provided adjusted ratios of approximately 75% acorn and 20% hickory, suggesting that acorn was the more important nut food eaten, and probably one of the most important food products eaten during the Woodland Period.

Numbers of seeds found in archaeological sites in the Southeast are rare until the end of the Archaic Period, and increase dramatically throughout the Woodland Period. Seeds from plants used as greens (pokeweed and purslane) and from fleshy fruits are relatively low but steady throughout the Archaic and Woodland periods. Seeds from small-grain forbs (eg. chenopod and amaranth) are proportionally very low until the end of the Archaic, and then increase dramatically until the Middle Woodland Period, after which they decline in abundance relative to seeds from cultivated plants such as curcubits, bottle gourds, sunflower, sumpweed, domesticated chenopod, and maize.

Chapman and Shea (1981)

Investigations of plant remains from archaeological sites on the Little Tennessee River drainage provide information regarding subsistence for the Archaic through Historic Periods. Data are presented for each major type of food resource.

Nut Remains

By weight, nut shell comprises over 95% of all carbonized plant remains from the archaeological sites along the Little Tennessee River, Hickory is by far the most ubiquitous type of nut shell recovered, comprising between 60%-97% of all nut shell. Black walnut, butternut, and acorn are less common, but consistent throughout the Woodland Period. Hazlenut and beechnut are found in trace amounts. Chestnuts are conspicuous in their absence. They were known to be abundant, but none are found in archaeological context after the Archaic.

Cultigens and possible cultigens

Goosefoot (*Chenopodium sp.*), knotweed (*Polygonum sp.*), and maygrass (*Phalaris caroliniana*) are all three common throughout the Woodland Period. This is consistent with data from other areas in Tennessee, and throughout the Southeast. Remains of gourds and squash (*Cucurbitaceae*) are found in fewer numbers, but commonly enough to establish their status as important resources. Pigweed (*Amaranthus*) and ragweed (*Ambrosia*) are occasionally found, but in very low numbers, and there is no evidence that they had any economic import. Domesticated sunflower (*Helianthus annuus*) first appears in the Late Archaic or Early Woodland (depending on the location), and increase in abundance throughout the remainder of the prehistoric period. Additionally, the sunflower achenes show a four-fold increase in size from the Early Woodland through the Historic Period. A similar process is observed in the development

of sumpweed (*Iva annua*), which also first appears in the Early Woodland, and shows an increase in achene size through time. Maize appears for the first time at the Icehouse Bottom site during the Middle Woodland, but is only represented by two fragments. Maize does not become common until the Early Mississippian Period.

Other Plant Remains

Seeds, grains, and fruit of over 20 other plant species are found at these sites, all at relatively lower frequencies. Some, such as wild grape (*Vitis sp.*) and persimmon (*Diospyros virginiana*) were likely eaten occasionally, while others, such as bedstraw (*Galium sp.*) are more likely indicators of human landscape disturbance and not food products.

Wood Charcoal

A total of 39 genera of carbonized wood were identified in the region, with at least 20 present at any one time. The number of genera present in each component increases through time. This indicates two things; first more intensive human disturbance of the landscape encourages successional species. The increasing proportion of pine compared to hardwoods supports this hypothesis. Additionally, it is thought that increasing human population led to an increase in the types of wood used as fuel, as traditional types become scarce. This explains the rarity of chestnut wood and nuts during the Woodland, as chestnut trees grow only on the upland slopes, away from the river. Chestnut trees were not used as fuel until the very end of the prehistoric period.

Human-Plant Mutualism in the Middle Woodland

“Paleoethnobotanical evidence indicates that a mutualistic, at times symbiotic relationship between humans and a particular suite of plant species was developing and intensifying in many areas of eastern North America by the Woodland Period (Crites 1987).” Both humans and plants effect the local environment in such a way as to create selective pressures for the other in a mutually beneficial relationship. Human modification of the landscape, which includes clearing undergrowth, burning, food storage, protection from predators, and replacement planting, creates an environment that encourages the growth of successional species. The plants that are able to most quickly re-colonize disturbed areas will appear first, followed by more slowly growing species. Continuous landscape modification and increasing human impact encourages the maintenance of an artificial succession in which highly productive “weedy” species are the most commonly encountered. In addition, differential elimination and protection of certain species will enhance this pattern.

Parallel to the effect that humans have on the plant species in the areas that they share is the effect on the foraging landscape that humans exploit. The plant species that are best at exploiting human landscapes are the ones that reproduce prolifically by making lots of seeds that are ideal for human consumption. It is possible to understand the foraging behavior of humans in relation to plant ecology, and the successional behavior of the plant species in response to human behavior without taking into account any human intent or purpose.

Prehistoric populations in Eastern North America during the Late Archaic and Woodland periods exhibited a mutualistic relationship with several weedy annuals that became an important part of their diet. It was not until the Middle Woodland period that

there was any evidence of intentional cultivation (Crites, personal communication). During the Middle Woodland the inhabitants of Central Tennessee were maintaining gardens of successional plant species that evolved from the wild plots that previously thrived around human habitats. Paleoethnobotanical data are derived from archaeological sites along the Duck and Elk rivers of Central Tennessee that date to the Middle Woodland Period.

Mortuary Behavior

Some flexed flesh inhumations do continue in the Middle Woodland suggesting a continuation of some traditions of the Early Woodland (Brown 1982). However, cremations are the most common burial practice during this time. This practice likely diffused from Ohio Hopewell groups (Brown 1982). Despite the frequency of this practice, crematory facilities are rare at Middle Woodland sites. Thus, preparations of cremains occurred over an open fire. At Yearwood, a mortuary site in the upper Elk Valley, a pit was discovered that may have served in the preparation of cremation burials (Brown 1982). The high number of bone fragments and high degree of calcination of the bone from the cremations found in the Duck River valley McFarland phase sites indicates that cremations during this time were processed at extremely high temperatures and were likely exposed to the fire for extended periods of time (Brown 1982). Most interments included only one individual per cremation container (Brown 1982).

Exotic trade items such as mica, copper earspools, and Flint Ridge flint items accompany cremation burials at Yearwood (Brown 1982, Faulkner 2002). These items are identified as being associated with the Hopewell Interaction Sphere, and Brian Butler

(1979) concludes that presence of these items indicates that the function of Yearwood is as a redistribution site for these exotic items as well as a ritual place for the burial of the dead. Cremations are not exclusive to those groups actively participating in the Hopewell Interaction Sphere. At sites in the Duck River valley, none of the cremation burials are accompanied by any special or ritual items. Brown speculates that this may indicate a more egalitarian social organization for this area.